

WHAT IS CLAIMED IS:

1. A method in a communication system comprising a access network with Radio Network controllers (RNC) and radio base stations (RBS or Node B) consisting of main units (MU) which performs base band signal processing and one or more radio remote units (RRUs) which converts between baseband and radio frequencies and transmits and receives signals over one or more antennas,
5 covering cells, and one or several User equipment (UE or Phones) moving closer and closer to another cell, which said network is made aware of and then it will initiate a handover process, during which the call will be transferred from one cell to another cell
10 within said radio base station (RBS or Node B) or to a cell in another Radio base station (RBS or Node B) in said communication network , c h a r a c t e r i z e d in that said handover process interact with a memory containing a list (softer handover group) of said
15 radio remote units (RRUs) capable of doing softer handover with each other using the same Rake receiver.
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2. A method according to patent claim 1, c h a r a c t e r i z e d in that said handover process is performed according to a selection from said list and said handover is done in line with the following:
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 - If the new cell is within the said list(Soft handover group) as another cell used by the user equipment (UE or phone) a Soft HO is initiated to the RBS as normal.
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 - If the new cell is not within the said list (softer handover group) as another cell used by the user

equipment (UE or phone) a Soft handover is initiated in the RNC or RBS.

3. A method according to patent claim 1, characterized in that said soft handover in the Radio base station (RBS) is a second stage maximum ratio combining or a selection combining with separate Rake receivers.
4. A method according to patent claim 2, characterized in that said selection among the two situations can be done with support from Radio Network controller or locally in said Radio base station (RBS).
5. A method according to patent claim 1, characterized in that said list (softer handover group) are made from a user equipment (UE) measured delay.
6. A method according to patent claim 5, characterized in that a reception time difference are used by Radio network controller (RNC) or Radio base station to calculate the relative propagation delay between the new antenna and the user equipment compared to the other active cells.
7. A method according to patent claim 5, characterized in that said Radio network controller (RNC) can based on this measurement include the new cell in said list (Softer handover group) or if said Radio network controller (RNC) not is impacted the measurement is forwarded to the Radio base station (RBS) and the RBS makes this decision.

8. A method according to patent claim 1, characterized in that artificial delay are stored within said Radio base station (RBS) to accomplish that the two signals from said two antennas are received within the RAKE window so that softer handover can be made.
9. A method according to patent claim 8, characterized in that a delay equalisation function makes the digital delay between the receiver/antenna and the RAKE receiver the same for all receivers/antennas.
10. A method according to patent claim 1 or 8, characterized in that the delay is optimised to maximize the number of successful softer handovers.
11. A method according to patent claim 10, characterized in that the delay are determined by evaluating the UE measured delay of a history of successful hand over between the related RRUs.

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